[0101] Step **1704** of **FIG. 17** is shown in further detail in **FIG. 20**. Within step **1704**, at step **2001** a Z value is collected in the same manner as at step **1702**. At step **2002** pins **1** and **2** are reconfigured as high impedance inputs and pins **10** and **11** as low impedance outputs. At step **2003** pin **10** is set to zero volts and pin **11** is set to positive five volts. Thus five volts are supplied to connector **212** while connector **241** is grounded. A delay is then provided at step **2004**, (of typically 1 millisecond for a device measuring 100 mm by 100 mm) to allow voltages in the sensor to settle before the voltage on pin **17** is measured at step **2005**. Therefore a voltage **V3** present on connector **207** is measured which provides an indication of the X position of the applied force.

[0102] Pins **10** and **11** are then reconfigured as high impedance inputs and pins **12** and **13** are reconfigured as low impedance outputs at step **2006**. The voltage on pin **12** is then set to zero while the voltage on pin **13** is set to five volts at step **2007**. Thus five volts are supplied to connector **207** while connector **206** is grounded. A time delay is provided at step **2008**, similar to that at step **2004**, before the voltage appearing at pin **18** is measured at step **2009**. Thus a voltage **V4** present on connector **212** is measured which provides an indication of the Y position of the applied force. Pins **12** and **13** are then reconfigured back to their initial state of high impedance inputs.

[0103] Therefore by the method described with reference to FIGS. **17** to **20** the interface circuit is able to make voltage measurements **V3** and **V4** which provide an indication of the position of the force applied to a fabric sensor, and measure voltages **V1** and **V2** which are proportional to currents passing through the sensor and provide information as to a second characteristic of the applied force. The second characteristic may be area over which the force is applied or a combination of the size of the force and said area. Furthermore, the circuit combines the voltages **V1** and **V2** to determine a Z value representative of the second characteristic.

[0104] The circuit **103** provides output data representative of X and Y position of the applied force and the Z value. However, in an alternative embodiment the interface circuit provides output data corresponding to the measured voltages **V1**, **V2**, **V3** and **V4**.

1. A position sensor for detecting the position of a mechanical interaction, including:

a first fabric layer having electrically conductive fibres machined therein to provide a first conductive outer layer allowing conduction in all directions along the layer;

a second fabric layer having electrically conductive fibres machined therein to provide a second conductive outer layer allowing conduction in all directions along the layer;

a central layer disposed between said first outer layer and said second layer, said central layer including conducting means;

a first insulating separating means disposed between said first conductive outer layer and said conducting means; and

a second insulating separating means disposed between said second conductive outer layer and said conducting means;

wherein said conducting means provides a conductive path between said first conducting outer layer and said second conducting outer layer at the position of a mechanical interaction.

2. A position sensor according to claim 1, wherein said first insulating means comprises of a first separate insulating layer and said second insulating means comprises of a second separate insulating layer.

3. A position sensor according to claim 1, wherein said first insulating means has insulating fibres included in the first fabric layer and said second insulating means has insulating fibres included in the second fabric layer.

4. A position sensor according to claim 3, wherein said insulating fibres form yarns of a greater average diameter than said conductive fibres.

5. A position sensor according to claim 1, wherein said first and second insulating means have insulating fibres included in the central layer and said conducting means comprises of conductive fibres.

6. A position sensor according to claim 5, wherein said insulating fibres are of greater average diameter than said conductive fibres of said conducting means.

7. A position sensor according to claim 1, wherein said first and second insulating means have insulating fibres included in the central layer and said conducting means comprises a plurality of conducting elements.

8. A position sensor according to claim 1, wherein said central layer has a different compressibility to said outer fabric layers.

9. A position sensor according to claim 1, wherein the conductivity of said outer layers is anisotropic.

10. A position sensor according to claim 9, wherein said outer fabric layers include insulating fibres and said anisotropic conductivity is defined by ratios of conductive fibres to insulating fibres.

11. A position sensor according to claim 1, wherein the electrical resistance between said conductive outer layers is indicative of the pressure applied to the position sensor at a mechanical interaction.

12. A position sensor according to claim 1, wherein the electrical resistance between said conductive outer layers is indicative of the size of an area of the position sensor affected by a mechanical interaction.

13. A position sensor according to claim 1, wherein said position sensor has electrical connections to the first and second conductive outer layers only.

14. A method of detecting the position of a mechanical interaction, wherein

a position sensor has a first fabric layer with electrically conductive fibres machined therein to provide a first conductive outer layer allowing conduction in all directions along the layer;

a second fabric layer has electrically conductive fibres machined therein to provide a second conductive outer layer allowing conduction in all directions along the layer;

a central layer is disposed between said first outer layer and said second outer layer and includes conducting means;